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901070-001
Rev 00

TouchTunes

FRU Installation Guide
Replacing Angelina's Camera Assembly

Purpose

This document explains how to install the Camera Assembly Field Replacement Unit (FRU) kit (P/N 600273-001) for an Angelina jukebox.

Audience

- TouchTunes Angelina jukebox operators and technicians
- TouchTunes Field Service and Customer Support

Estimated Time

15 minutes

Required Personnel

1 technician

This document includes tasks of the following types:

☑	Software
☑	Hardware
☑	Mechanical

Topics

- Required Tools and Equipment
- Important Safety Information
- Included in This Kit
- Replacing the Camera Assembly
- Aligning the Camera
- Setting the Camera's White Balance
- Contacting TouchTunes Technical Support

Required Tools and Equipment

- Measuring tape
- Phillips head screwdriver, #1
- Cable ties, if not included in this kit
- Cutting tool (to cut existing cable ties)
- Anti-static wrist band
- Several blank sheets of white paper (for the calibration procedure)

NOTE	For warranty returns, place the defective unit into the packaging/container from which you removed the replacement unit. Do not disassemble the defective unit. Doing so voids its warranty. You must obtain a valid Return Authorization (RA) number from TouchTunes before shipping a defective unit.

Important Safety Information

WARNING: When performing this procedure or any other maintenance on your jukebox, the unit must be powered off.

To avoid damaging the camera, it is important to prevent exposure to static discharge during installation. TouchTunes strongly recommends you follow these guidelines during installation.

- Wear a grounded anti-static wrist strap, or work with one hand always touching a metal part of the metal chassis.
- Whenever possible, leave the camera laying on an anti-static bag or anti-static foam.
- Leave the jukebox plugged into the AC outlet with the power switch turned OFF. Doing so places a ground on the metal chassis.

Included in This Kit

Ensure that you have received all required parts before proceeding with this installation.

Part	Quantity	TouchTunes Part #
Camera Assembly	1	401552-001
Fasteners	2	200020-008
FRU Manual: Camera Assembly (this document)	1	901070-001

Replacing the Camera Assembly

To replace the defective camera assembly:

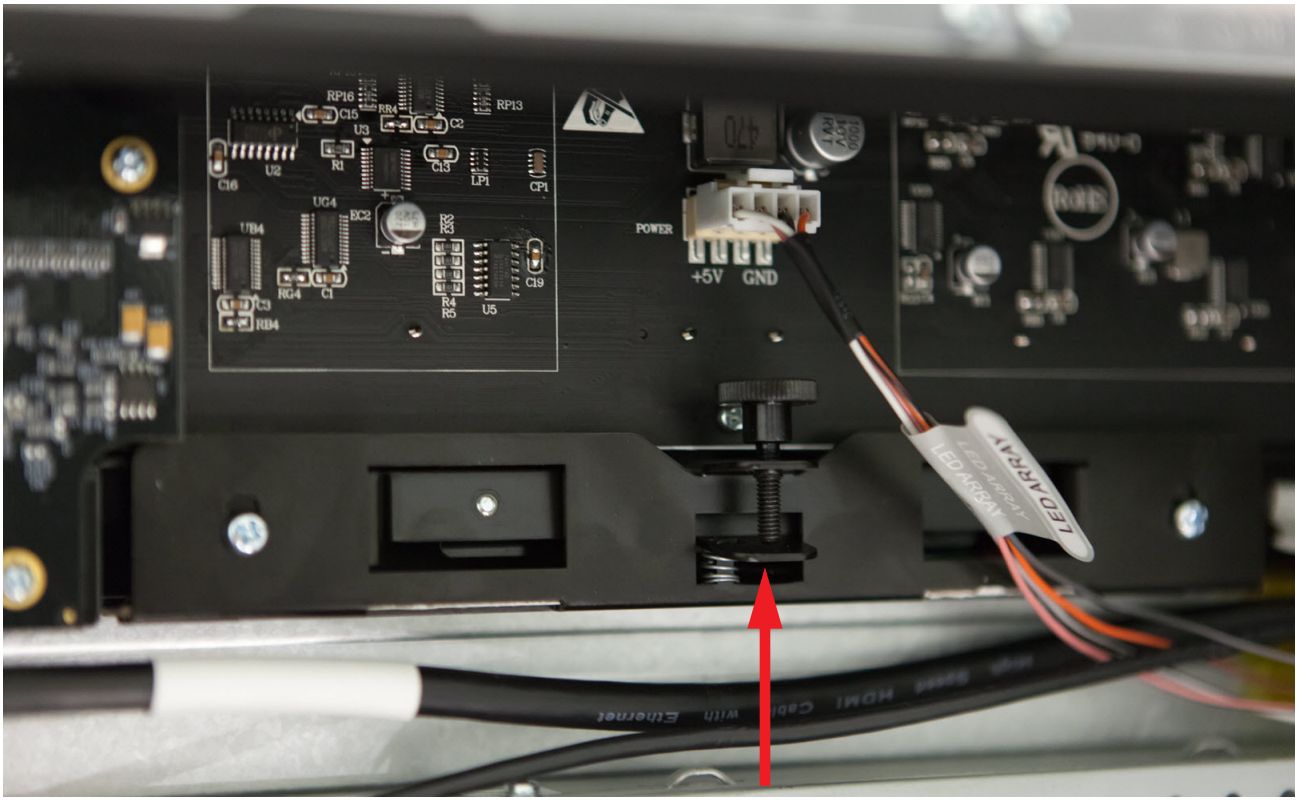
1. Unlock and open the jukebox door.
2. Press the **MNGR** button on the I/O Board to open the Operator interface main menu.
3. On the Angelina screen, press the **REBOOT** button.

4. When you hear the BIOS beep, power down Angelina by setting the rocker switch on the Power Supply Unit (PSU) to the off (**O**) position.

WARNING: Never shut down or unplug Angelina without first performing a reboot and waiting for the BIOS beep. Doing so can cause damage to the hard drive and make it unusable.

IMPORTANT: Leave the jukebox plugged into the AC outlet while turned off. This grounds the metal chassis.

5. Snip the cable tie holding the cables together to the right of the existing camera assembly, if needed.
6. Disconnect the cable that connects the existing camera assembly to the Angelina computer USB port.
7. Loosen the middle calibration screw.



Loosen middle calibration screw

8. Remove the two screws that fasten the existing camera assembly to Angelina and set them aside. Note that when removing the second screw, you should support the camera assembly to ensure it does not fall (as shown in the following figure).

Removing second screw

9. Remove the existing camera assembly from the jukebox.

10. Take the replacement camera assembly (which consists of the camera mounted on a bracket with a USB cable connected) out of its packaging.

Replacement camera assembly

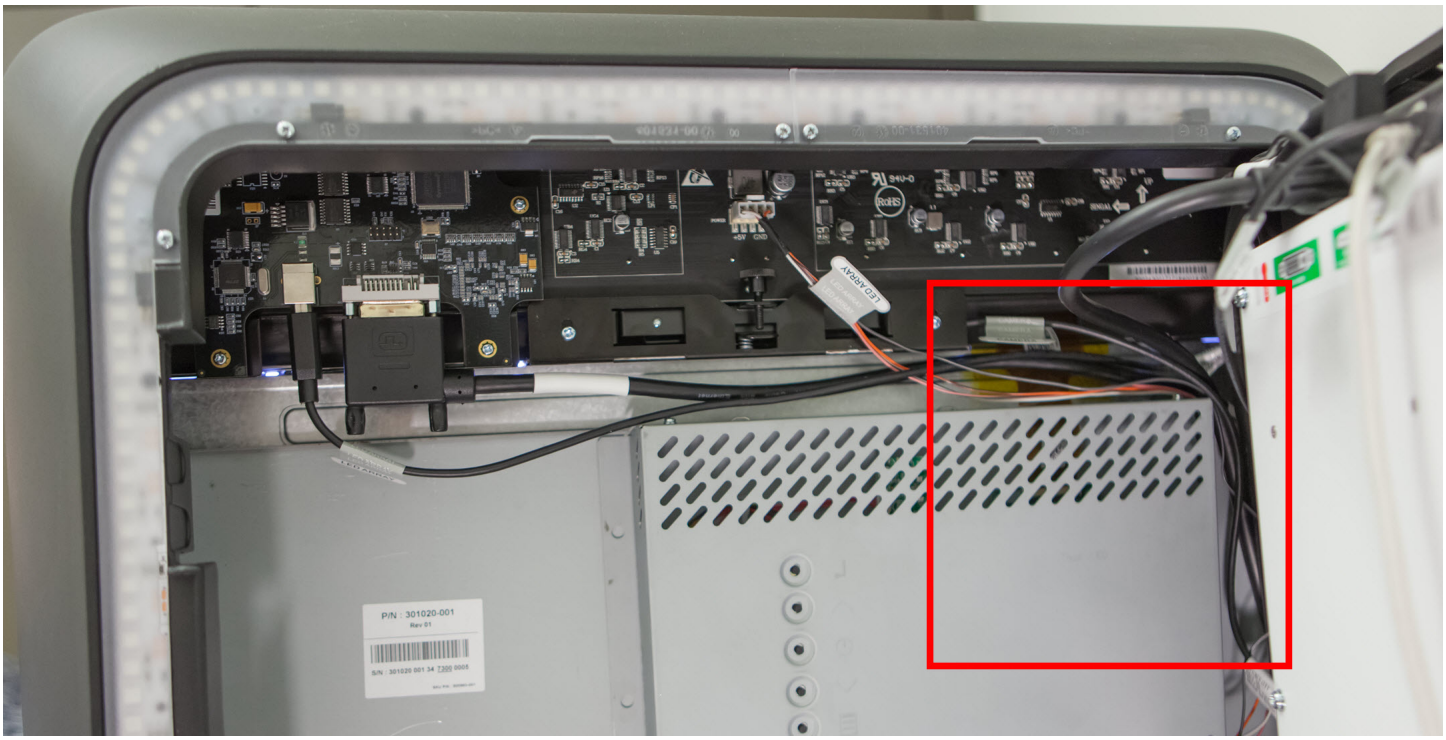
11. Remove the lens cap from the camera.
12. Fit the camera assembly onto the two studs and fasten it using the two screws you removed earlier.

NOTE	The cable should extend from the camera assembly from its right side. If the cable is extending from the left, then the camera assembly is upside-down.

13. Connect the camera's cable to the USB port on the Angelina computer.

USB cable plugged into Angelina computer

14. Route the cable over and towards the right of the monitor.



Cable routing

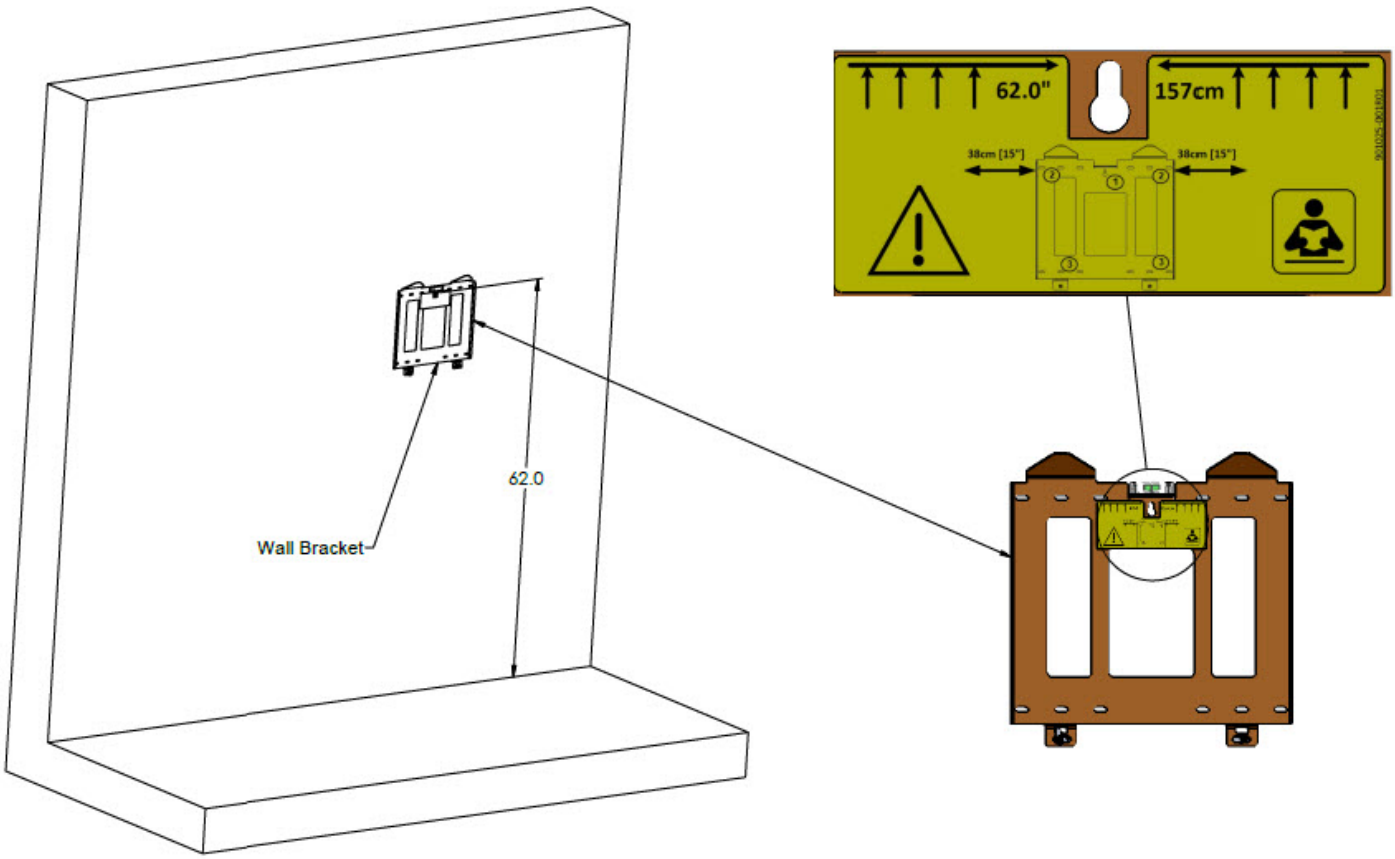
15. Use the cable ties supplied with the camera kit to fasten the USB cable to the existing bundle of cables. If cable ties are not included in the kit, use self-provided ties.
16. Power up Angelina by setting the rocker switch on the PSU to the on position (I).

NOTE	Since you have not yet aligned the camera, it is normal and expected that the camera lens does not line up with the circular aperture on the outside of the Angelina door. Centering the lens is part of the next step of the installation, *Aligning the Camera*.

Aligning the Camera

Before you proceed with the camera calibration, it is critical that the Angelina jukebox be mounted at the correct height.

The top of the Angelina bracket should be 62 inches from the floor. The correct height is necessary to avoid damage to the bracket and to achieve the correct calibration.



Wall bracket height

If your Angelina jukebox is not mounted at this height, consult the *Angelina Installation and Setup Guide* for mounting instructions.

To properly align the camera, you must use the Video Capture Test utility on the Operator menu.

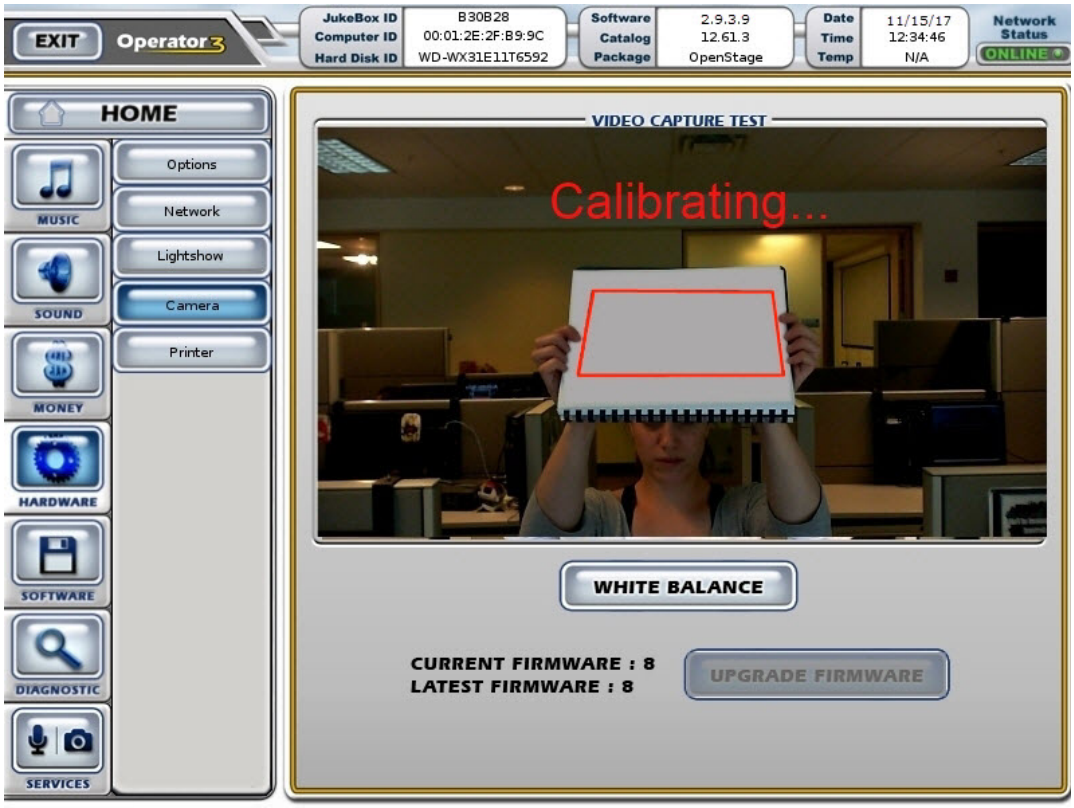
1. On the I/O Board, press the **MNGR** button to open the Operator menu.
2. From the main menu, select **HARDWARE** and then press the **Camera** button. The preview area displays the field of view being captured by the camera.
3. If part of the image is obscured or presents a "tunnel vision" effect, you will have to adjust the position of the camera.
4. Put a mark on the floor 152 inches away from the wall, centered with the Angelina jukebox.
5. Turn the screw in the middle of the camera bracket on the rear of the bracket until you see the mark on the floor at the bottom of the preview area.
6. The camera lens and the aperture on the exterior of the Angelina jukebox door should align vertically more and more as you adjust the camera screw using the method above.

Setting the Camera's White Balance

Now that you have installed and aligned the camera's firmware, you must set the camera's white balance to optimize the coloration of its images.

NOTE	If the location generally operates under low-lighting conditions, it is essential to replicate these lighting conditions when performing the white balance procedure.

1. Stand at arm's length from the Angelina screen. This simulates the optimal distance a patron's face would be positioned from the camera.
2. From the Operator interface, go to **HARDWARE** > **Camera** and then press the **WHITE BALANCE** button. The Preview screen will display a red square.
3. Hold up a stack of white or light gray paper and position it at a 45 degree angle backwards (that is, tilting the top towards yourself). Do not use a single sheet of paper as it may be translucent. The entirety of the red square should be filled on screen by your sheet and you should be reflecting the ceiling light towards the camera.



Setting white balance

4. The white balance process will take approximately 5 seconds. Keep the sheet as still as possible during this time.

NOTE	If the lighting of the location changes significantly and permanently, you should reset the white balance as part of your routine when visiting the location.

You have now completed the replacement of the camera assembly.

Contacting TouchTunes Technical Support

If you need help or have questions about this guide, call the TouchTunes 24/7 Service Hotline at 888-338-5853.

To help us assist you more effectively with problem reports, the following information may be required when contacting TouchTunes support:

- Jukebox model and ID
- Operator ID
- Serial number of the component you believe to be defective
- Date/time of the problem
- Actions performed immediately before the problem occurred
- Any additional comments relevant to the problem

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